
ASME Codes & Standards Development: Offshore Oil and Gas Application

**BSEE Domestic and International Standards
Conference: Offshore Standards Update**

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VOLUNTARY CONSENSUS STANDARDS

- ◆ Current ASME C&S in BSEE Regulations:
 - ✓ B16.5 Pipe Flanges and Flanged Fittings
 - ✓ B31.8 Gas Transmission and Distribution Piping Systems
 - ✓ BPV Section I - Power Boilers
 - ✓ BPV Section IV - Heating Boilers
 - ✓ BPV Section VIII - Divisions 1 and 2, Pressure Vessels
- ◆ Reference Editions Should be Updated
 - ✓ Documents Submitted to BSEE

ASME/BSEE Partnership

- ◆ BSEE Participation in ASME Standards Development:
 - ✓ Agency supports participation on ASME committees developing standards aligned with agency needs

Current Codes & Standards Programs

◆ B31 Pipeline Standards:

- ✓ B31.8 Gas Transmission & Distribution Piping Systems
- ✓ B31.8S Managing System Integrity of Gas Pipelines
- ✓ B31.4-2012 Pipeline Transportation Systems for Liquids and Slurries
- ✓ B31Q Pipeline Personnel Qualification

Other ASME Codes & Standards Applicable to BSEE

- ◆ BPV Section VIII Division 3 High Pressure Vessels
- ◆ BPV Section V Nondestructive Examination
- ◆ BPV Section IX Welding and Brazing Qualifications
- ◆ 33 ASME B16 Standards: flanges, valves, gaskets, fittings
- ◆ B31.3-2010 Process Piping
- ◆ API 579-1/ASME FFS-1 Fitness-For-Service
- ◆ In Preparation: New Standards - Nonmetallic Pressure Piping Systems and Materials

B31.8 Gas Transmission & Distribution Piping Systems

- ◆ This Code covers the design, fabrication, installation, inspection, and testing of pipeline facilities used for the transportation of gas. The scope of this Code includes gas transmission and gathering pipelines, including appurtenances, that are installed offshore for the purpose of transporting gas from wellhead separators to production facilities. This Code also covers safety aspects of the operation and maintenance of those facilities.
- ✓ Chapter VIII- Offshore Gas Transmission Systems: Coverage
 - ❖ design, material requirements, fabrication, installation, inspection, testing
 - ❖ safety aspects of operation and maintenance
 - ❖ offshore gas transmission systems include offshore gas pipelines, pipeline risers, offshore gas compressor stations, pipeline appurtenances, pipe supports, connectors.

B31.4 Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids

- ◆ This Code contains requirements for the design, materials, construction, assembly, inspection, and testing of offshore and onshore pipeline systems. These systems transport a wide range of liquids such as crude oil, natural gasoline, natural gas liquids, liquefied petroleum gas, supercritical carbon dioxide, liquid alcohol, liquid anhydrous ammonia and other liquid petroleum products.
- ✓ Chapter IX Offshore Liquid Pipeline Systems-Coverage
 - ❖ design, material requirements, fabrication, installation, inspection, testing
 - ❖ safety aspects of operation and maintenance
 - ❖ offshore pipeline systems include offshore liquid pipelines, pipeline risers, offshore liquid pumping stations, pipeline appurtenances, pipe supports, connectors, and other components

B31.8S Managing System Integrity of Gas Pipelines

- ◆ This Standard currently applies to onshore pipeline systems constructed with ferrous materials and that transport gas, but can be modified to cover other offshore pipeline systems. It describes a process that an operator of a pipeline system can use to assess and mitigate risks in order to reduce both the likelihood and consequences of incidents. It covers both prescriptive and performance-based elements of integrity management programs.

B31Q Pipeline Personnel Qualification

- ◆ This Standard establishes the requirements for developing and implementing an effective Pipeline Personnel Qualification Program utilizing accepted industry practices. The standard specifies the requirements for identifying covered tasks that impact the safety or integrity of pipelines, for qualifying individuals to perform those tasks, and for managing the qualifications of pipeline personnel.

B31Q Pipeline Personnel Qualification

◆ Underlying Principles

- ◆ Focus is “safety and integrity”
- ◆ Technically based
- ◆ Contains prescriptive and performance options.
- ◆ Over 150 possible tasks listed in appendix provide material necessary to develop a complete operator qualification program.
- ◆ The standard can be applied to hazardous liquid, gas transmission & gas distribution systems.

Other ASME Codes & Standards Applicable to BSEE

- ◆ **12 B30 Standards on Cableways, Cranes, Derricks, Hoists, Winches, Rigging Hardware, Hooks, Jacks, and Slings**
- ◆ **6 B18 Standards on Rivets, Bolts, Screws, and other Fasteners**
- ◆ **2 B40 Standards on Gauges and Thermometers**
- ◆ **6 HST Performance Standards for Chain and Wire Rope Hoists**
- ◆ **6 MFC Standards for Measurement of Fluid and Gas Flow**